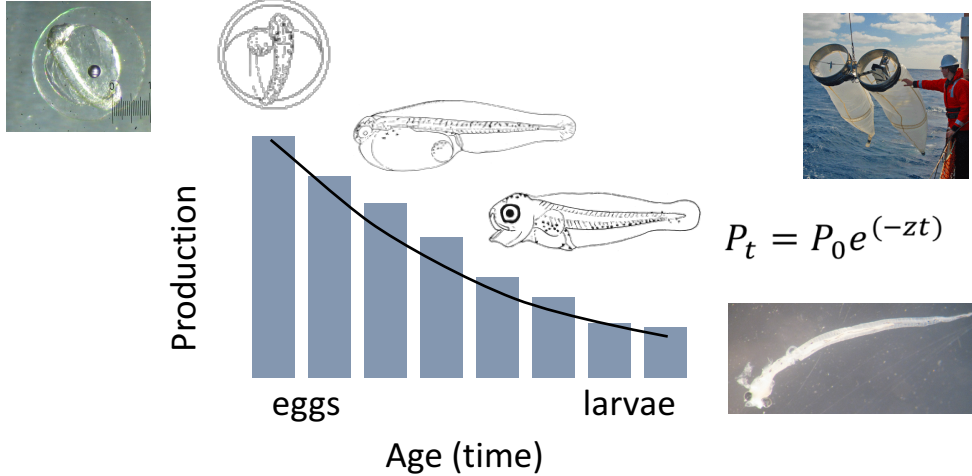
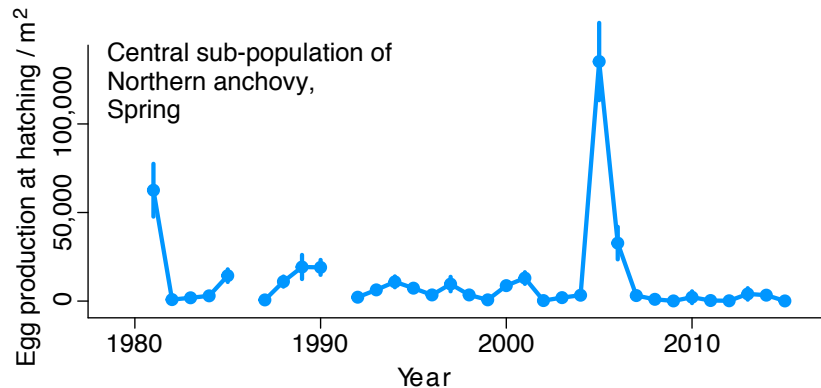


CalCOFI and Small Pelagic Species

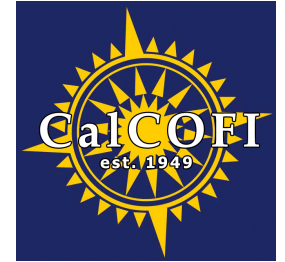
Egg and larval abundances are used to estimate population trends



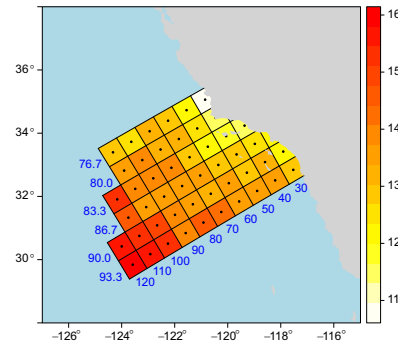
- Egg and larval abundances are used to estimate spawning stock biomass of sardine using the Daily Egg-Production Method.
- Historical egg production of anchovy provides the only time series for anchovy which informs assessment of this data limited fishery



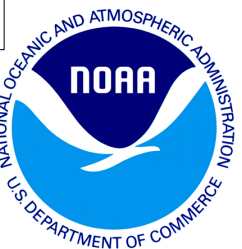
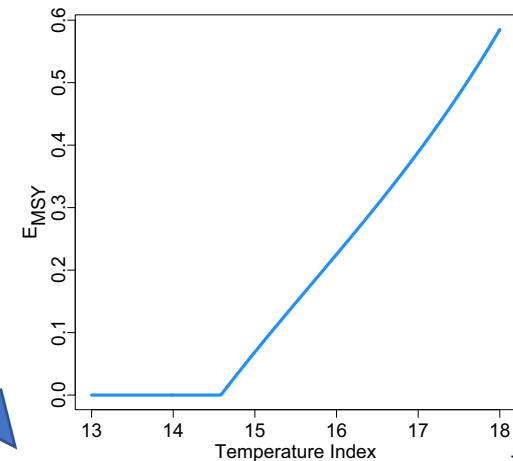
Sardine
Northern Anchovy
Pacific mackerel
Jack Mackerel



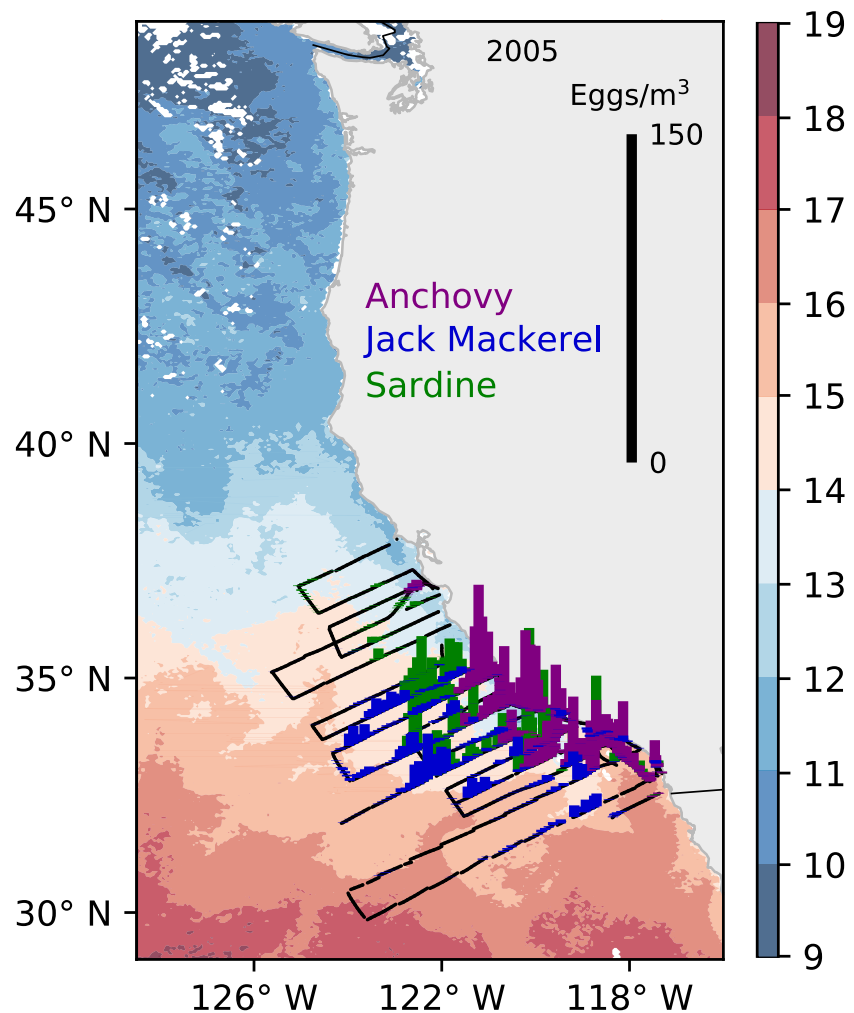
Environmental data are used to limit harvest when conditions are unfavorable



Averaged CalCOFI sea surface temperature is used to calculate the Over Fishing Limit (OFL) and Acceptable Biological Catch (ABC) for sardine assessment.

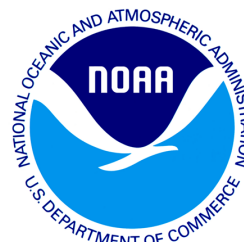


CalCOFI and Small Pelagic Species



Eggs are used to understand habitat use and migration patterns

- Continuous Underway Fish Egg Sampler (CUFES) egg counts inform satellite-based sardine habitat models currently used to guide sampling for small pelagic species.
- CalCOFI data are used to develop and validate hydrographic models (ROMS), which are then used in interpolated habitat products that permit real-time predictions and compensate for missing satellite data.



Predicted Sardine Habitat, March 2016

